

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Currently Amended) A storage system for storing an original file and at least one format converted file of the original file comprising:

a storage media; and

a file conversion unit which, in response to a request to store an original file, converts the original file to at least one format converted file,

wherein said storage system stores the original file and the at least one format converted file on said storage media and manages a relationship between the original file and the format converted file to permit retrieval of either of the original file and the format converted file,

wherein said file conversion unit calculates a first hash value of the original file and a second hash value of the format converted file, and

wherein said first hash value is used to determine whether the original file has changed and/or said second hash value is used to determine whether the format converted file has changed.

2. (Currently Amended) A storage system according to claim 1, wherein the relationship between the original file and the format converted file is managed by

including a first inode that includes the first hash value and that further includes an inode number of a second inode that stores the second hash value~~a table which includes at least information of formats to which the original file is converted.~~

3. (Currently Amended) A storage system according to claim 2, wherein said storage system determines whether the original file has changed or whether the format converted file has changed by reading a file pointed to by said first inode or said second inode, respectively, calculating a new hash value for the read file, and comparing said new hash value with a respective one of said first hash value or said second hash value~~said table includes a directory of a location of the original file and the format converted file.~~

4. (Original) A storage system according to claim 1, wherein said file conversion unit is external of said storage system.

5. (Currently Amended) A storage system according to claim 1, ~~wherein said file conversion unit calculates a hash value of the original file and the format converted file, and~~

wherein said first hash value is used to determine whether the original file has changed by

reading the original file pointed to by a first inode that stores the first hash value,

calculating a first new hash value from the original file as read, and
comparing the first hash value stored in the first inode with the first new hash
value to determine whether the original file has changed; and
wherein said second hash value is used to determine whether the format
converted file has changed by
reading a second inode listed in said first inode for said format converted file,
reading the format converted file pointed to by the second inode,
calculating a second new hash value from the format converted file as read,
and
comparing the second hash value stored in the second inode with the second
new hash value to determine whether the format converted file or the format
converted file has changed.

6. (Currently Amended) A storage system according to claim 1-5, wherein a directory list is maintained indicating a corresponding relation between the original file, formats to which the original file has been converted, information based on hash checks indicating whether the original file or the format converted file has changed, and information indicating a status of the change.

7. (Currently Amended) A storage system according to claim 1, wherein checked hash values of original files and format converted files are used to create a status table of the original files and format converted files, indicating whether the files are

changed or unchanged and whether an unchanged format converted file is able to be reconverted to an original file format~~a file can be read by specifying a file format.~~

8. (Currently Amended) A storage system according to claim 1, wherein a file ~~can~~is able to be stored at different locations on said storage media, on other storage media, or on other storage media of a remote storage system which ~~can~~is able to be accessed via a network based on a format of said file ~~based on a format of said file~~ or a directory in which files are located.

9. (Original) A storage system according to claim 8, wherein storing of a file based on its format is conducted based on a file storing rule.

10. (Currently Amended) A storage system according to claim 1, wherein a list of formats a file is stored in ~~can~~is able to be obtained.

11. (Currently Amended) A method of storing an original file and at least one format converted file of the original file in a storage system which includes a storage media, said method comprising the steps of:

in response to a request to store an original file, converting the original file to at least one format converted file;

storing the original file and the at least one format converted file on the storage media;~~and~~

managing a relationship between the original file and the format converted file to permit retrieval of either of the original file and the format converted file;

calculating a first hash value of the original file and a second hash value of the format converted file; and

using said first hash value to determine whether the original file has changed and/or using said second hash value to determine whether the format converted file has changed.

12. (Currently Amended) A method according to claim 11, wherein the relationship between the original file and the format converted file is managed by including a first inode that includes the first hash value and that further includes an inode number of a second inode that stores the second hash value ~~a table which includes at least information of formats to which the original file is converted.~~

13. (Currently Amended) A method according to claim 12, wherein said storage system determines whether the original file has changed or whether the format converted file has changed by reading a file pointed to by said first inode or said second inode, respectively, calculating a new hash value for the read file, and comparing said new hash value with a respective one of said first hash value or said second hash value ~~said table includes a directory of a location of the original file and the format converted file.~~

14. (Original) A method according to claim 11, wherein a file conversion unit performs the converting and said file conversion unit is external of said storage system.

15. (Currently Amended) A method according to claim 11, wherein a file conversion unit performs the converting and said file conversion unit calculates a-the first hash value of the original file and the second hash value of the format converted file, and

wherein said first hash value is used to determine whether the original file ~~or the format converted file~~ has changed by

reading the original file pointed to by a first inode that stores the first hash value,

calculating a first new hash value from the original file as read, and

comparing the first hash value stored in the first inode with the first new hash value to determine whether the original file has changed; and

wherein said second hash value is used to determine whether the format converted file has changed by

reading a second inode listed in said first inode for said format converted file,

reading the format converted file pointed to by the second inode,

calculating a second new hash value from the format converted file as read,

and

comparing the second hash value stored in the second inode with the second new hash value to determine whether the format converted file has changed.

16. (Currently Amended) A method according to claim 11-45, wherein a directory list is maintained indicating a corresponding relation between the original file, formats to which the original file has been converted, information based on hash checks indicating whether the original file or the format converted file has changed, and information indicating a status of the change.

17. (Currently Amended) A method according to claim 11, wherein checked hash values of original files and format converted files are used to create a status table of the original files and format converted files, indicating whether the files are changed or unchanged and whether an unchanged format converted file is able to be reconverted to an original file format ~~a file can be read by specifying a file format.~~

18. (Currently Amended) A method according to claim 11, wherein a file ~~can~~ is able to be stored at different locations on said storage media or on other storage media based on a format of said file.

19. (Original) A method according to claim 18, wherein storing of a file based on its format is conducted based on a file storing rule.

20. (Currently Amended) A method according to claim 11, wherein a list of formats a file is stored in ~~can~~ is able to be obtained.

21. (Currently Amended) A system comprising:

a storage system which includes a storage media for storing files; and
a file conversion unit, which is connected to said storage system and which in response to a request to store an original file, converts the original file to at least one format converted file,

wherein said storage system stores the original file and the at least one format converted file on said storage media and manages a relationship between the original file and the format converted file to permit retrieval of either of the original file and the format converted file by storing in a first inode a pointer to said original file and an inode number of a second inode, said second inode pointing to said format converted file.

22. (Currently Amended) A system according to claim 21, wherein said file conversion unit calculates a first hash value of the original file and a second hash value of the format converted file, and

wherein said first hash value is stored with said first inode, and is used to determine whether the original file has changed, and

wherein said second hash value is stored with said second inode, and is used to determine whether the format converted file has changed~~the relationship between the original file and the format converted file is managed by a table which includes at least information of formats to which the original file is converted.~~

23. (Currently Amended) A system according to claim 22, wherein said storage system determines whether the original file has changed or whether the format converted file has changed by reading a file pointed to by said first inode or said second inode, respectively, calculating a new hash value for the read file, and comparing said new hash value with a respective one of said first hash value or said second hash value ~~said table includes a directory of a location of the original file and the format converted file.~~

24. (Original) A system according to claim 21, wherein said file conversion unit is external of said storage system.

25. (Currently Amended) A system according to claim 21, wherein said file conversion unit calculates a first hash value of the original file which is stored with said first inode and a second hash value of the format converted file which is stored with said second inode, and

wherein said first hash value is used to determine whether the original file ~~or the format converted file~~ has changed by

reading the original file pointed to by the first inode that stores the first hash value,

calculating a first new hash value from the original file as read, and

comparing the first hash value stored with the first inode with the first new hash value to determine whether the original file has changed; and
wherein said second hash value is used to determine whether the format converted file has changed by
reading the second inode whose inode number was stored in said first inode for said format converted file,
reading the format converted file pointed to by the second inode,
calculating a second new hash value from the format converted file as read,
and
comparing the second hash value stored with the second inode with the second new hash value to determine whether the converted format file has changed.

26. (Currently Amended) A system according to claim 21-25, wherein a directory list is maintained indicating a corresponding relation between the original file, formats to which the original file has been converted, information based on hash checks indicating whether the original file or the format converted file has changed, and information indicating a status of the change.

27. (Currently Amended) A system according to claim 21, wherein checked hash values of original files and format converted files are used to create a status table of the original files and format converted files, indicating whether the files are changed

or unchanged and whether an unchanged format converted file is able to be
reconverted to an original file format ~~a file can be read by specifying a file format.~~

28. (Currently Amended) A system according to claim 21, wherein a file ~~can~~ is able
to be stored at different locations on said storage media or on other storage media
based on a format of said file.

29. (Original) A system according to claim 28, wherein storing of a file based on its
format is conducted based on a file storing rule.

30. (Currently Amended) A storage system according to claim 21, wherein a list
of formats a file is stored in ~~can~~ is able to be obtained.